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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,300	05/10/2001	Byong-man Kim	249/257	3819

7590 08/25/2004  
LEE & STERBA, P.C.  
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EXAMINER

VUONG, BACH Q

ART UNIT PAPER NUMBER

2653

DATE MAILED: 08/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/852,300

Applicant(s)

KIM ET AL.

Examiner

Bach Q Vuong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-16 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-7 is/are rejected.
- 7) ☒ Claim(s) 4 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### ***Claim Objections***

Claims 1-16 are objected to under 37 CFR 1.75(a) for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 (line 5) , 5 (line 7), 9 (line 4) and 13 (line 7), the term "eliminating carbonaceous material ..." is unclear and confusing since Applicant states that " a rewritable data storage using a carbonaceous material" in line 1, but later in the claims, the carbonaceous material is eliminated by a tip. Claims 2-4, 6-7, 10-12 and 14-16 fall with their respective parent claim.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Yagi et al. (US 5,313,451).

Yagi et al., according to Figs. 1-3, which show a rewritable data storage using a carbonaceous material comprising all features of the claimed invention as interpreted below:

Regarding claim 1, see Figs. 1-3 which show a rewritable data storage (see numerals 8-10 in Fig. 1) using a carbonaceous material comprising a writing plate formed of a substrate, and a conductive layer deposited on the substrate; and a tip (see numeral 6) for forming

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carbonaceous material in the form of spots on the writing plate, the spots representing information recorded on the conductive layer.

Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Naito et al. (US 6,197,399).

Naito et al., according to Figs. 1-12, which show a rewritable data storage using a carbonaceous material comprising all features of the claimed invention as interpreted below:

Regarding claim 1, see Figs. 1-12 which show a rewritable data storage (see recording medium in Fig. 1) using a carbonaceous material comprising a writing plate formed of a substrate (see substrate 11), and a conductive layer (see film 12 and 13) deposited on the substrate; and a tip (see AFM probe) for forming or eliminating carbonaceous material in the form of spots on the writing plate, the spots representing information recorded on the conductive layer.

Regarding claims 2 and 3, see Fig. 1 which shows a rewritable data storage wherein the substrate is formed of SiO<sub>2</sub>/Si and the conductive layer is formed of Au.

Regarding claim 5, see Figs. 1-12 which show a rewritable data storage using a carbonaceous material comprising: a writing plate comprised of a substrate having stripped conductive layer patterns formed on the substrate (see Figs. 1-4); and a tip disposed in an array having a regular interval corresponding to the striped conductive layer patterns along a cantilever extending across the stripped conductive layer patterns in order to form carbonaceous material in the form of spots, the spots representing information recorded on the striped conductive layer patterns (see Fig. 5-8).

Regarding claims 6 and 7, see the rejection applied to claims 2 and 3.

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***Allowable Subject Matter***

Claims 4 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4 and 8 are allowable over prior art of record because all cited references, considered as closest prior art and viewed in combination or individually, fails to suggest or fairly teach a rewritable data storage using a carbonaceous material including a combination of all features as recited in each of claims 4 and 8.

Claims 9-16 are allowed over prior art of record because all cited references, considered as closest prior art and viewed in combination or individually, fails to suggest or fairly teach a method of writing/reading a rewritable data storage using a carbonaceous material including a combination of all features as recited in each of claims 9 and 13. Claims 10-12 and 14-16 are allowed with their respective parent claim.

***Cited References***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references relate to recording medium and information erasing apparatus and method with using cantilever probe/tip.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bach Q Vuong whose telephone number is (703) 305-7355. The examiner can normally be reached on Monday-Friday.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (703) 305-6137. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BV

August 18, 2004

  
THANH T. TAN  
PRIMARY EXAMINER